CITY OF GLOUCESTER

Fuller School Site Reuse Study

Submitted to:

MASSDEVELOPMENT

Submitted by:

VHB *Vanasse Hangen Brustlin, Inc.*

WINTER STREET ARCHITECTS

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Contents

Executive Summary

In 2008, the City of Gloucester closed the Fuller School located at 4 Schoolhouse Road along Blackburn Circle. Since that time, the school has been partially used for administrative purposes for the Gloucester School Department and the Fuller School Integrated Preschool. The city sought assistance from MassDevelopment in considering site development alternatives for the approximately 13.3-acre site. The city expressed the need to visualize and better understand how the site could accommodate a variety of new development program elements such as a police/fire facility, a potential YMCA facility (relocated from downtown), and other revenue-generating uses such as office and retail space. In addition, the city expressed interest in understanding how the existing approximately 176,700 gross square foot (GSF) school building could be reused for other purposes.

Over the past six months, a review of existing site and building conditions were conducted and input was obtained from city officials in order to frame potential reuse options of the site. The study illustrates four different site development options including:

- Commercial office development
- Retail development
- Mixed use program with commercial office development and a police/fire facility
- Mixed use program with a police/fire facility and a renovated Fuller School building with a YMCA and office space.

As a result of the site accommodation layouts conducted for this study, the four site reuse options conclude that the site is suitable to accommodate a range of different types of development program. Access to the site from Route 128 and adjacent connectors roads is adequate. The site is relatively flat with wetland resource areas are limited to small pockets along the periphery of the site. The site is well served by utility infrastructure. In addition, study of the existing building highlights that the building is suitable to be renovated and repurposed as a YMCA facility with additional office space. In order to determine highest and best use of the property, a market study and assessment of the four site reuse options will be conducted.

Existing Site Assessment

As part of the existing site assessment phase of the Fuller School Site Reuse Study, a utility due diligence review was conducted for the project site. Research included contacting various utility providers servicing the area, a review of available geographic information systems (GIS) data, and a review of the construction plans for Schoolhouse Road and Gloucester Crossing Road entitled "M.O.R.E. Grant – Schoolhouse Road Construction and Related Work in Gloucester, MA" dated November 25, 2008 prepared by Traffic Solutions (the "Schoolhouse Road plans").

This existing site assessment also includes an environmental due diligence review for the project site. The review provides a summary of natural resources located on and adjacent to the project site. An assessment of the existing traffic conditions and travel patterns along the surrounding roadways adjacent to the project site is also provided in this section. This preliminary assessment includes a brief overview of the existing transportation infrastructure, which includes traffic demands, traffic safety, and traffic operations.

Project Location

The project site is comprised of approximately 13.3 acres of land and currently contains the former Fuller School building and associated parking areas, access roads and a playing field. The site is bound by Blackburn Circle and Route 128 to the north and west, Schoolhouse Road and residential areas to the south, and commercial development (Gloucester Crossing) to the east. Elevations on the project site range from approximately 110 feet in the southwest corner of the site, to 142 feet in the northeast portion of the site. Based on a review of MassDEP's Bureau of Waste Site Cleanup on-line database, there do not appear to be any listed or reported releases of Oil and/or Hazardous Material mapped for the site or listed for the address of 4 Schoolhouse Road. According to the city's zoning map, the site is currently zoned R-10: Medium/High Residential.

Wetland Resources

Environmental scientists from Vanasse Hangen Brustlin (VHB) visited the site on August 2, 2011 to identify and characterize any regulated wetland resource areas located on and adjacent to the project site. During the site visit, VHB identified and characterized resource areas, but did not perform a formal delineation.

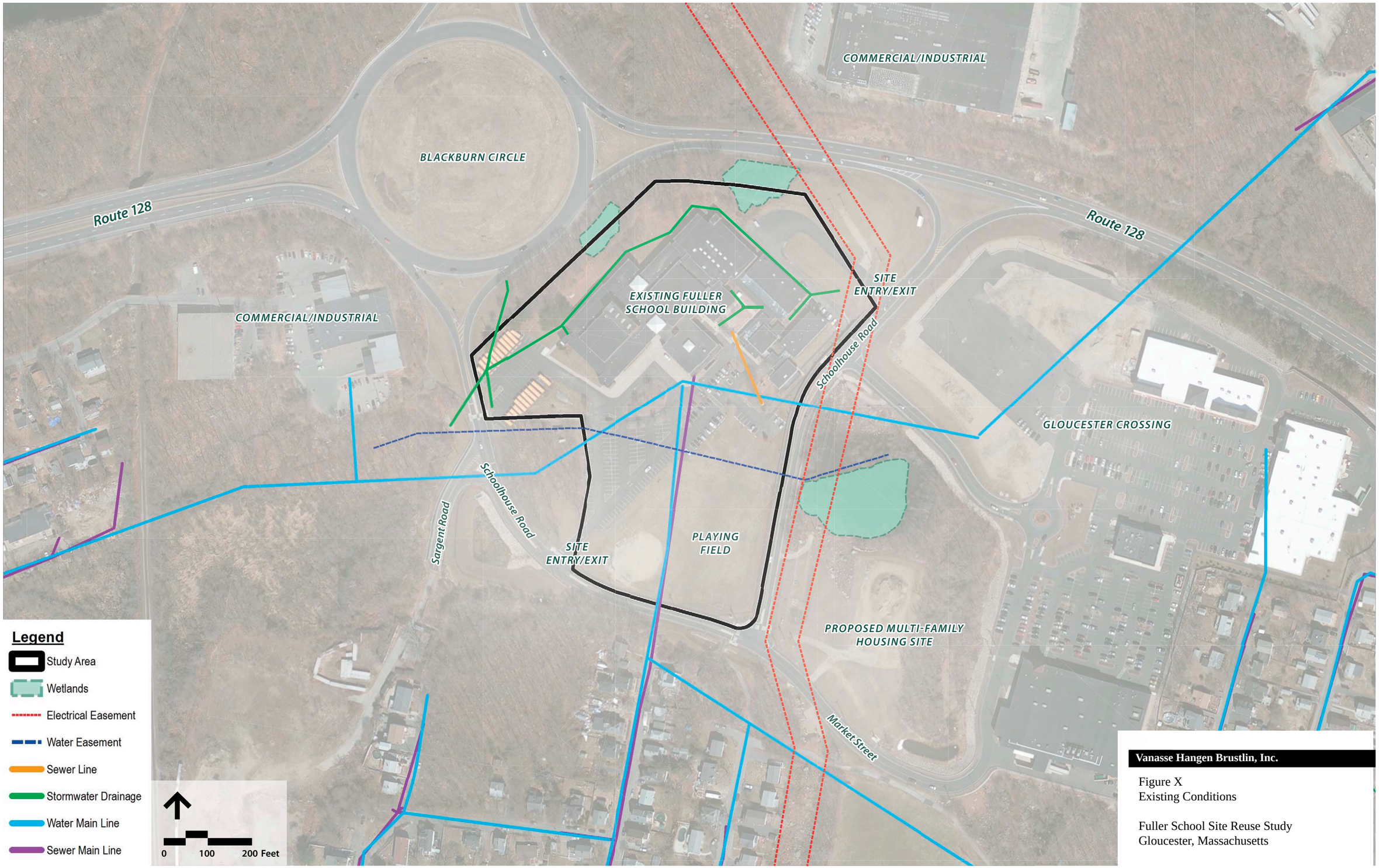

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Figure X
Existing Conditions

Fuller School Site Reuse Study
Gloucester, Massachusetts

Source: M.O.R.E. Grant – Schoolhouse Road Construction and Related Work in Gloucester, MA" dated November 25, 2008 prepared by Traffic Solutions

Two vegetated wetlands were observed to the north of the former Fuller School building, just south of Blackburn Circle. The two wetland areas were identified as depressions with a red maple (*Acer rubrum*) fringe and vegetated with sweet pepperbush (*Clethra alnifolia*), steeplebush (*Spiraea tormentosa*), common reed (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*) and poison ivy (*Toxicodendron radicans*).

A bordering vegetated wetland was observed off property, to the east of Gloucester Crossing Road. The wetland is a large palustrine emergent wetland with a forested fringe and contains an outlet control structure adjacent to Gloucester Crossing Road. The wetland appears to receive roadway runoff from Gloucester Crossing Road and have a hydraulic connection to downgradient wetland resource areas (to the south). Vegetation observed within the wetland includes red maple, glossy buckthorn (*Rhamnus frangula*), common reed, purple loosestrife and cattail (*Typha sp.*).

The aforementioned wetlands are regulated under a combination of the Gloucester Wetlands Protection Ordinance and the Massachusetts Wetlands Protection Act. A 100-foot buffer zone extends horizontally from the wetlands' delineated boundary to establish jurisdictional limits of review for development or work within these areas by the Gloucester Conservation Commission.

A constructed stormwater management basin exists on the northern side of Schoolhouse Road, opposite the site entrance drive. The basin has rip rapped slopes, is vegetated with cattail and has outlet control structures. VHB was unable to assess the age of the basin at the time of inspection, however, if the basin was constructed on or after January 2, 2008, it is not considered a regulated wetland resource area.

Floodplain

According to the most recent FEMA Flood Insurance Rate Map[1] of the vicinity, the project site does not lie within 100-year floodplain. However, a Zone B (area subject to 100-year flooding with average depths less than one foot or where the contributing drainage area is less than one square mile), is located to the southeast of the site.

[1] FEMA, 1992. Flood Insurance Rate Map of Gloucester, Massachusetts, Essex County. Community Panel Number 250082004D.

Rare Species

The Massachusetts Nature Heritage Atlas, as produced by the NHESP[2], indicates that no portions of the project site or adjacent areas lie within areas mapped as Priority Habitat of Rare Species, Estimated Habitat of Rare Wildlife nor Certified Vernal Pools. Additionally, the project site is not located in an area that has been designated as an Outstanding Resource Water[3].

Water

Water infrastructure in the area is maintained by the City of Gloucester Department of Public Works – Utilities Division, which obtains water from multiple surface reservoirs in the area.

An existing water easement runs through the project site immediately south of the Fuller School building. Any development encumbrances imposed by this easement are unknown and the size of the water line within the easement has not been established. However, the Schoolhouse Road plans proposed a connection to this line with a new 16-inch water main that would run north within Gloucester Crossing Road before turning east to serve existing development in the area. This new main would replace a section of the existing line east of Gloucester Crossing Road to be abandoned. Other than a crossing of the easement, VHB has not uncovered any evidence of a water line running within Schoolhouse Road.

In addition to the water easement and proposed 16-inch main, there are multiple existing hydrants on the Site indicating an available water service. Furthermore, there are hydrants to the south within Trask Street that indicate water service is available in this area as well.

Sanitary Sewer

Sanitary sewer infrastructure in the area is maintained by the City of Gloucester Department of Public Works – Utilities Division. Sewage is treated in-town at a treatment plant on Essex Avenue owned and operated by the City. The treatment plant serves the City of Gloucester and a minimal demand from Rockport.

[2] NHESP, 2008. *Massachusetts Natural Heritage Atlas, 13th Edition.*
[3] DEP, 1993. *Designated Outstanding Resource Waters of Massachusetts.*

Record plans show wastewater generated from the Fuller School discharges to a holding tank approximately 60 feet from the southeast corner of the building. Sewage is then conveyed south by an 8-inch service where it connects to an 8-inch main in Trask Street. No other sanitary sewage connections were discovered during due diligence research.

Storm Drainage

As indicated on the Schoolhouse Road plans, stormwater runoff from the project site, Schoolhouse Road, and Gloucester Crossing Road is collected within a subsurface closed-drainage system pipe network – with sizes varying from 8 inches to 60 inches – and conveyed to a large stormwater management basin to the west of Schoolhouse Road. This basin then discharges stormwater to a vegetated wetland to the west. As noted previously, the existing stormwater management basin has rip rapped slopes, is vegetated with cattail and has outlet control structures. Whereas this basin was proposed under the Schoolhouse Road plans, the basin was likely constructed after January 2, 2008, and therefore is not considered a regulated wetland resource area.

Gas

National Grid is the current provider of natural gas in the project area. However, an inquiry to National Grid found that the Fuller School is not currently connected to any local gas lines, nor has any evidence of propane been found while reviewing available plans. The school building is heated by oil.

A new gas main (size unknown) was proposed within Schoolhouse Road on the Schoolhouse Road plans. However, this line is noted to be installed "by others." It is not yet clear whether this work has been performed, or whether a gas line exists in the immediate vicinity of the project site.

Electric

National Grid is the current provider of electricity in the project area. Based on review of available plans and aerial imagery, it appears that the project site is serviced from overhead wires at the intersection of Schoolhouse Road and Route 128. Electrical manholes onsite suggest that this service drops below ground once it enters the property. VHB found no record of subsurface electric lines within Schoolhouse Road or Gloucester Crossing Road aside from street lighting conduits and equipment.

In addition to the onsite electrical service, a 100-foot wide easement for the benefit of New England Power Company runs along the east side of Gloucester Crossing Road and cuts across the Fuller School property at the northeast corner by the school's access driveway from Gloucester Crossing Road. While the development encumbrances imposed by this easement are unknown, it is assumed that development within the easement is limited.

Transportation Infrastructure

This section includes an evaluation of the physical conditions of the roadways immediately adjacent to the Project. This information is intended to both identify current roadway design issues and help identify improvements that may need to be considered during future development of the project site.

Study Area Intersections and Roadways

Route 128 (Yankee Division Highway) is the primary roadway serving this area. Schoolhouse Road and the internal North-South roadway serve as the major access roadways to the Fuller School and the Gloucester Crossing development, and both intersect Route 128. A traffic study was prepared by Traffic Solutions in 2007 for the Gloucester Crossing development, which was reviewed for this assessment. This study projected that the internal North-South roadway would carry the majority of the traffic generated by the Gloucester Crossing development via Route 128 rather than Schoolhouse Road.

The following roadways and intersections were included as part of this traffic review effort. There are no traffic signals present within the immediate vicinity of the project site.

- Schoolhouse Road at Blackburn Circle;
- Schoolhouse Road at Fuller School driveway;
- Internal North-South roadway at Route 128.
- Internal North-South roadway at Fuller School driveway; and
- Internal North-South roadway at Gloucester Crossing driveway.

Schoolhouse Road at Blackburn Circle

Schoolhouse Road intersects Blackburn Circle from the south and allows right-turn movements into and out of the circle. Near this intersection, the circle functions with

one wide travel lane with a pavement width that ranges from approximately 30 to 40 feet, and the roadways leading into and out of the circle are approximately 24 feet wide, and shoulders are 4-feet or less in width. The entering approach to the circle is under Yield control and there are no sidewalks within the vicinity of this intersection.

Schoolhouse Road at Fuller School driveway

Schoolhouse Road intersects the Fuller School driveway from the north to form a three-way or T-type unsignalized intersection. There are sidewalks located on the northern side of Schoolhouse Road, and they terminate at the intersection of Sargent Street, which is to the north of this intersection. Each approach to this intersection operates with one multi-purpose travel lane. The pavement cross section for Schoolhouse Road is approximate 28-feet; or two 12-foot lanes and a 4-foot raised median (that is approximately 50-feet long). The Fuller Street driveway is approximately 24-feet wide.

Internal North-South roadway at Route 128

The internal North-South roadway intersects Route 128 from the south and allows right-turn movements into and out of Route 128. The pavement width for each of these approaches is approximately 24 feet. Route 128 westbound operates with two through lanes, while the eastbound approach operates with one through and one right-turn lane that enter into the internal North-South roadway. The right-turn movement out of the internal roadway enters into its own travel lane. Route 128 east of this intersection consists of a four lane cross section, or two lanes eastbound and two lanes westbound. The pavement width on Route 128 is approximately 48 feet.

Internal North-South roadway at Fuller School driveway

The internal North-South roadway intersects the Fuller School driveway to form a three way T-type unsignalized intersection. This intersection is approximately 150 feet to the north of the intersection with the roadway that leads to the Gloucester Crossing development. The internal North-South roadway consists of three lanes and the pavement width is approximately 40-feet. The southbound approach includes a through lane and a left-turn lane that extends from the Gloucester Crossing intersection, while the northbound approach consists of one through lane.

Internal North-South roadway at Gloucester Crossing driveway

The internal North-South roadway intersects the Gloucester Crossing driveway to form a three way T-type unsignalized intersection. The intersection provides main access to the Gloucester Crossing development and the three lane southbound approach is approximately 40-feet wide. This southbound approach includes a through lane and a left-turn lane, while the northbound approach consists of one through lane. The southbound left-turn lane has approximately 200-feet of storage capacity for queued vehicles; however, this lane extends beyond the Fuller School driveway. The northbound approach consists of two lanes and a raised median and is also approximately 40-feet wide. The driveway to the Gloucester Crossing development is approximately 28-feet wide and consists of two lanes. There are sidewalks located on the westerly side of the internal roadway, and on the southerly side of the crossing driveway.

Public Transportation

The Cape Ann Transportation Authority (CATA) provides transit service within the vicinity of the project site and along the Route 128 corridor. The Green Line and Orange Line currently serve Gloucester Crossing. The following summarizes each of these two routes:

Green Line

- Within the project area, the Green Line serves the Blackburn Industrial Park via the Business Express and Blackburn Industrial Park Route. The route travels to and from the east on Route 128.
- This bus route stops at four locations, including: Dunkin Donuts on Main Street, Main Street/Pleasant Street, Gloucester Crossing, and Blackburn Industrial Park (on request only).
- Hour of Operation (Monday – Friday): Buses start around 8:00am at the Dunkin Donuts and end at 5:24pm at Blackburn (on request).
- Buses operate on one-hour headways, and they depart the Gloucester Crossing 5-minutes following their arrival.
- Transfers to other lines, other than between the Orange and Green lines are not permitted.

Orange Line

- Within the project area, the Orange Line serves Gloucester Crossing as part of the Business Express Route. This route travels to and from the west on Route 128.
- This bus route stops at 15 locations, including but not limited to, Dunkin Donuts on Main Street, Main Street at Pleasant Street, Lincoln Park, the High School, Gloucester Crossing, etc.
- Hours of Operation (Monday – Friday): buses start around 8:00am at the Dunkin Donuts on Main Street, and ends at 5:41 pm at the Commuter Rail. (Saturday): buses start around 9:00am at the Dunkin Donuts on Main Street, and ends at 3:50pm at the Senior Center.
- Buses operate on one-hour headways, and they depart the Gloucester Crossing 5-minutes following their arrival.
- Transfers to other lines, other than between the Orange and Green lines are not permitted.

Vehicular Safety Assessment

A preliminary safety assessment was conducted for the area to determine if the traffic demands, combined with geometric conditions raise potential safety concerns for vehicles, pedestrians, and bicyclists. There was limited crash data identified from the MassDOT database for Schoolhouse Road (1 incident, single vehicle with icy road conditions) and the internal North-South Roadway (0 incidents). As a result of this low number, supplemental crash data should be obtained at a later date from the City of Gloucester Police Department to verify the information summarized below.

Table 1 below summarizes the crash data that was available for Blackburn Circle, and it is noted that the 2007 traffic study prepared for Gloucester Crossing recorded 13 incidents over a three year period from 2002 through 2004. The data below indicates that incidents have remained fairly consistent over the most recent years (on average).

Table 1
Blackburn Circle Crash Summary: 2005 through 2009

	Blackburn Circle
Year	
2005	1
2006	5
2007	2
2008	3
2009	7
Total	**18**
Average	3.6
Collision Type	
Rear-end	10
Sideswipe, same direction	3
Not reported/Unknown	5
Crash Severity	
Non-fatal injury	2
Property damage only (none injured)	11
Not Reported/Unknown	5
Time of Day	
Weekday, 7:00 AM - 9:00 AM	5
Weekday, 4:00 PM - 6:00 PM	3
Saturday, 11:00 AM - 2:00 PM	1
Weekday, other time	9
Pavement Conditions	
Dry	11
Wet	3
Ice	1
Not reported	3

Source: MassDOT records, compiled by VHB

Existing Traffic Volumes

This section includes an evaluation of the existing traffic volumes within the immediate vicinity of the Project.

Roadway Traffic Volumes

VHB developed a summary of the relevant traffic data along the roadways immediately adjacent to the project site. Turning movement counts (TMC) at the

study area intersections were not readily available, and therefore Table 2 summarizes the daily traffic volumes for only the study area roadways. The volumes illustrated in this table have not been adjusted to reflect existing conditions (2011), and the actual traffic counts were collected in 2001 and 2006, so more recent traffic data will be needed as the Project advances.

Table 2
Historical Daily Traffic Volumes (ADT)

	Estimated (Year)
Route 128, west of Blackburn Circle	28,800 (2006)
Route 128, east of Blackburn Circle	23,600 (2006)
Schoolhouse Road, south of Route 128	2,900 (2001)

Source: Schoolhouse Road data: MassDOT. Route 128 data, Traffic Solutions Gloucester Crossing Traffic Study, 2007.

Regional and Local Traffic Access

The directional distribution of future Project-generated traffic could be attributable to the existing travel patterns in the area. Future traffic access to a new development can be a function of population density, existing travel patterns, competing retail opportunities, and the efficiency of the existing roadway system to carry new traffic. The project site is located on only one major highway; i.e. Route 128. Table 3 below reviews the percentage of the existing daily traffic on roadways surrounding the Project, which is based on traffic data collected and reported in the 2007 Gloucester Crossing Traffic Study. This information should again be revisited when reviewing the redevelopment options and once again when more recent traffic data is collected for the area, as it is unclear whether traffic would be generated from the Blackburn Industrial Park to the north.

Table 3
Regional and Local Access

Roadway	Direction	Percentage
Route 128	West	53%
Route 128	East	47%
	Total	100%

Existing Building Analysis

[The following is a summary from the *Feasibility Study - Gloucester Public Schools* completed by the Mount Vernon Group Architects in October, 2002.]

The Fuller School is a two-story brick and pre-cast concrete structure originally built as a parochial high school in 1965. The school is configured in a campus style plan with classrooms on the perimeter of both floors and the gymnasium and auditorium located in the middle. Heights of building vary and the roofs of the entire school are flat. Two additions of one and two stories, circa early 1970's, were added to the rear of the building and match the existing school construction. The one-story portion is brick/masonry construction with steel roof structure and originally housed shops. Existing shops have been converted into classrooms and maintenance shops/storage.

Overall building dimensions are 461'-8" north to south and 462'-8" east to west at its widest points. The gross footprint of the entire building (including school and administrative offices), is approximately 108,065 SF. The total gross area of the building is 176,683 SF and is distributed as follows:

First Floor	108,065 SF
Second Floor	68,816 SF
Total Gross	176,683 SF

The majority of the building is framed with reinforced concrete joists, beams and columns, except for the gymnasium, auditorium and shop wing that are framed with long span steel joists supported on steel beams and columns. The ground floors are constructed with concrete slabs on grade except the floors over the basement area that is constructed with reinforced concrete slab and beams. Foundations exposed to view are concrete construction.

The existing construction of the Fuller School and administrative areas of the building consists of pre-cast texture concrete panels and brick veneer on CMU back up. Windows are steel framed with single glazed fixed and operable units and are part of the pre-cast panel system.

The exterior windows are steel framed and painted with single pane glazing for both the fixed and operable casements. Glass in many of the fixed units has been replaced with single plexi-glass sheets and are clouded and scratched. Steel frames are not

thermally broken and have rusted and weather-stripping at the glazing has failed at most units. The exterior door frames are pressed metal with transom lights above doors and are likely not thermally broken. Doors are hollow metal with single-paned glazing.

Codes and Regulations

Building Summary

Building construction for the Fuller School is primarily brick/CMU back up and pre-cast concrete. The portions of the building constructed of reinforced concrete would classify the present construction type of the building as Type 1 B (non-combustible and protected) which has unlimited height and area limitations. Other portions of the school are constructed of unprotected steel beams and columns with no fire walls. As such, the building construction type should be classified as a non-conforming Type 2C construction. The Use Group is E-Educational.

Height and Area Limitations

According to Table 503 of the Mass State Building Code, the building is in excess of the allowable area for Type 2C construction. Any future additions would need to be separated by a firewall in order to be in compliance with the height and area limitations required by law.

Handicapped Accessibility

The building does not conform to the current M.A.A.B. (Massachusetts Architectural Access Board) or ADA (American Disabilities Act) standards. The following is a listing of required alterations required to gain compliance:

- Door pull and clearances at the corridor do not appear to be in compliance.
- All door exits have been updated for handicapped accessibility and require no action.

Egress Issues

Egress from the existing building appears to be adequate for the current use and population.

Structural and Seismic Issues

The building was constructed prior to the adoption of seismic requirements in the Building Code and would be subject to some damage during an earthquake.

As per Massachusetts State Building Code (Eighth Edition) this building would need to be reinforced to withstand Seismic Hazard Category 2 if alterations or additions in excess of 50 percent of the assessed value were proposed. Also as per latest Massachusetts Building Code, the existing building falls under Seismic Hazard Exposure Group II and Seismic Performance Category C. The interior partitions must also be adequately braced against an Earthquake of Category 2. The interior partitions must also have a height-to-thickness ratio of 20 or less. If the interior walls do not meet this requirement then these interior walls will need to be reinforced or *removed* and replaced.

The following conditions must also be addressed:

- Masonry walls, both loading and non-load bearing walls, must be adequately attached to all floors and roofs.
- Stone elements must be adequately tied together.
- Parapet walls that do not meet the Seismic Standards for new construction must be removed or braced.

In addition to the above, all architectural, mechanical & electrical components of the building will need to be reinforced to resist seismic forces.

Site Reuse Options

Four site reuse plan options were developed by VHB for the Fuller School site. Each option applied land uses and programmatic components that range in intensity and use to showcase how the project site could potentially be redeveloped in the future. The development of the options considered the existing condition constraints which appear to be minimal. As stated in previous sections of this study, minor wetland areas are located along the periphery, a water easement and electrical line easement area should be avoided and access to the site from Schoolhouse Road can be achieved.

The options respond to development program concepts proposed by city staff and MassDevelopment and will be evaluated through a subsequent market study. The four site reuse options which could accommodate different types of development program include:

- Option 1: Commercial office development
- Option 2: Retail development
- Option 3: Commercial office development and a police/fire facility
- Option 3: Renovated Fuller School building as a YMCA and office space and a police/fire facility

In order to develop conceptual site layouts for the four options, a series of assumptions were taken into consideration at this point and may be a factor if and when the site is developed by a private developer. It is assumed that:

- All four options would require that the existing residential zoning designation be revised.
- The conceptual layouts of all four options do not include the land that is privately owned located in the southwestern portion of the project site. Thus, the options are entirely on publicly-owned land.
- Land development impacts to wetland resource areas and necessary grading along the northern portion of the project site shown in the conceptual layouts may be engineered appropriately and feasibly through future site development.

Option 1: Commercial Office Development

The goal of the first option is to maximize the potential of the site for revenue generation. The existing Fuller School building would be demolished entirely to accommodate this option. Option 1 consists of two development areas bisected by an internal roadway. The area north of the internal roadway includes a 3-story 100,000 SF Class A commercial office building with 350 parking spaces. The area south of the internal roadway includes two 2-story professional office buildings totaling 80,000 SF with 400 parking spaces. Access to the project site would be from the existing Gloucester Crossing intersection along the loop road and from Schoolhouse Road.

Table 4
Option 1 Development Program

Use	Stories	Area (sf)	Required Parking Spaces *(parking ratio)*
Commercial Office – Class A	3	100,000	350 *(3.5 sp:1,000 SF)*
Professional Office – 2 buildings	2	80,000	320 *(4 sp:1,000 SF)*
	Total	180,000	690

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Figure X
Option 1: Commercial Office Development

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Gloucester, Massachusetts

Option 2: Retail Development

Option 2 depicts the project site as a retail development complimenting the adjacent Gloucester Crossing retail development next to the project site. The existing Fuller School building would be demolished entirely to accommodate this option. During development of the conceptual site layout for this option, it was determined that a single larger retail box (over 100,000 SF, ie. a Walmart or a Target) was not able to be reasonably accommodated on this site when considering the parking and loading/service constraints that such larger retail users typically require. Thus, this option is designed to have multiple retail uses that may be located throughout the site. The layout of Option 2 includes a "large box" retail space of 75,000 SF (ie, a Bed, Bath and Beyond, or a Marshalls) and support retail space of 12,000 SF along the northern portion of the project site. The southern portion of the project site could accommodate another "junior box" retail of 25,000 SF (ie, a Staples or a Barnes and Noble). Parking would be situated between the retail components and include 560 parking spaces.

Table 5
Option 2 Development Program

Use	Stories	Area (sf)	Required Parking Spaces (parking ratio)
Retail – Large Box	1	75,000	375 *(5 sp:1,000 SF)*
Retail – Support Retail	1	12,000	60 *(5 sp:1,000 SF)*
Retail – Junior Box	1	25,000	125 *(5 sp:1,000 SF)*
	Total	112,000	560

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Figure X
Option 2: Retail Development

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Gloucester, Massachusetts

Option 3: Commercial Office Development and Police/Fire Facility

Option 3 is a mixed-use program oriented along an internal roadway. The existing Fuller School building would be demolished entirely to accommodate this option. Within the area north of the internal roadway, a 3-story office building consisting of 100,000 SF and 350 parking spaces is provided. Along the south side of the internal roadway and within the center of the project, Option 2 includes a second office building consisting of two stories and 40,000 SF and 160 parking spaces. Within the southeastern corner of the project a police/fire facility could be accommodated. Access to the office component would be provided from the Gloucester Crossing intersection and exiting to the south along Schoolhouse Road. The police/fire facility site would include dedicated site access along the loop road and Schoolhouse Road for immediate police and fire access and include approximately 56 parking spaces.

Table 6
Option 3 Development Program

Use	Stories	Area (sf)	Required Parking Spaces (parking ratio)
Commercial Office – Class A	3	100,000	350 *(3.5 sp:1,000 SF)*
Professional Office	2	40,000	160 *(4 sp:1,000 SF)*
	Total	140,000	510
Police/Fire Facility	2	30,000	56 *(n/a)*

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Figure X
Option 3: Commercial Office Development and Police/Fire Facility

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Gloucester, Massachusetts

Option 4: New YMCA and Police/Fire Facility

Option 4 assumes that majority of the Fuller School building is reused for a new YMCA facility. Based on preliminary discussions with representatives from the YMCA, a conceptual program for a new YMCA facility within the existing building would include approximately 82,954 SF and require demolition of portions of the existing building. In addition, this Option includes new office space along the north side of the existing building, separate from the YMCA offices, and allows for continued use by the Fuller School Preschool as well as the School Department administrative offices and Auditorium. Parking for approximately 280 vehicles to serve the YMCA would be arranged in the existing parking areas as well as new parking areas along northeast and northwest sides of the existing building. This option would also include a new 30,000 SF police/fire facility in the southwestern portion of the project. Access to the police/fire facility would be separated from the proposed access to the YMCA.

Table 7
Option 4 Development Program

Use	Stories	Area (sf)	Required Parking Spaces (parking ratio)
Renovated Fuller School Building	2		
• *YMCA*	*1*	*82,954*	
• *Fuller School Preschool*	*1*	*7,084*	
• *Office Space – General*	*2*	*36,783*	
• *Office Space – Gloucester School Administration*	*1*	*10,022*	
• *Auditorium*	*1*	*9,262*	
	Total	146,105	280 (n/a)
Police/Fire Facility	2	30,000	64 *(n/a)*

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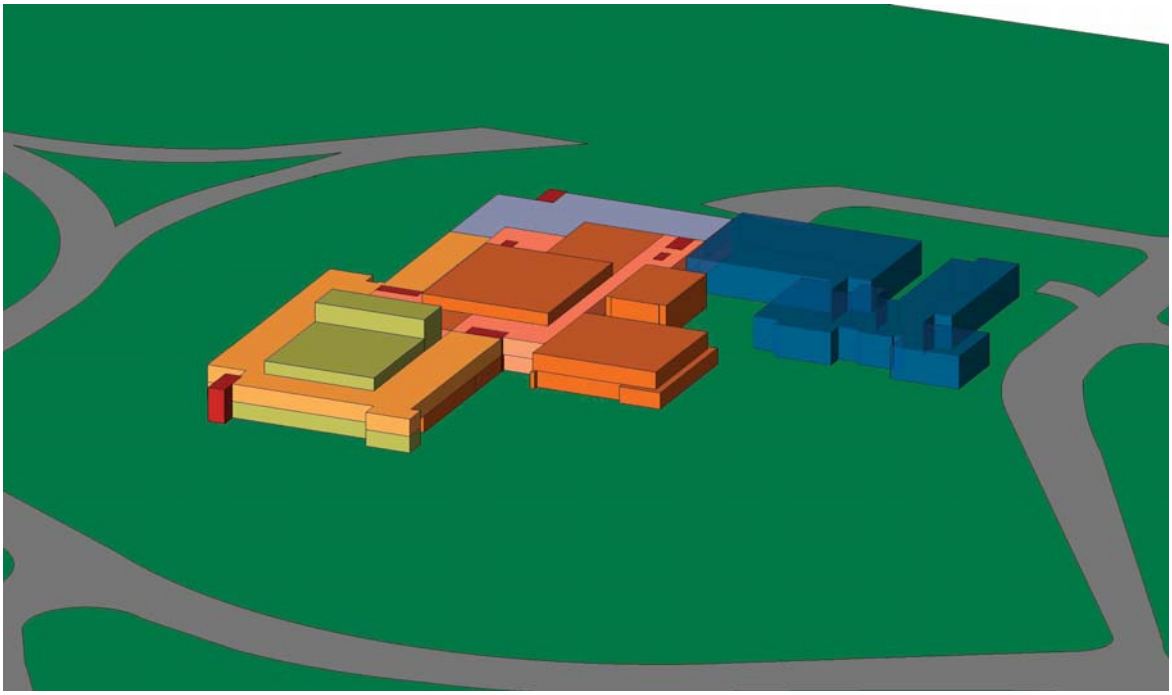
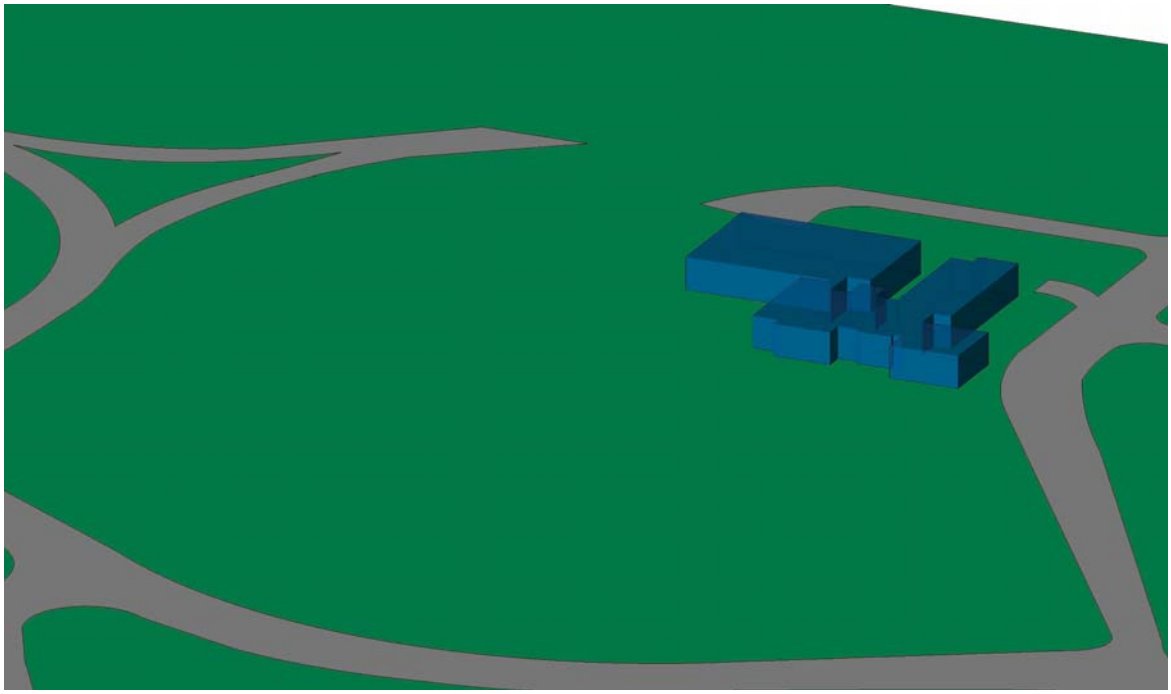
Figure X
Option 4: New YMCA and Police/Fire Facility

Fuller School Site Reuse Study
Gloucester, Massachusetts



Existing Fuller School Building



Potential Area for Demolition

Source: Winter Street Architects

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Figure X

Existing Fuller School Building and Demolition Area

Fuller School Site Reuse Study
Gloucester, Massachusetts

Building Design Approach

This section provides an overview of the building program and design considerations evaluated during the study. Winter Street Architects (WSA) reviewed the potential re-use of the Fuller School as both a retail and commercial office property. Given the inflexible nature of the existing structural system, the design strategy focused on 'working with' the existing spaces/structure to the greatest degree possible.

WSA determined that a retail use of the existing Fuller School was not feasible given the existing sizes of the classroom spaces. While the demising walls between classrooms are not structural, the corridor walls are structural which effectively limits the depth to approximately 28 feet which is not adequate for retail. This 28 feet 'leasing depth' (discussed later) is ideal for a commercial office use but exclusive use as commercial office would render the interior of the building useless. It is for this reason that a mixed-use approach that locates offices on the perimeter and a use that does not require natural light on the interior seems to be the most feasible.

WSA also analyzed the existing Fuller School building for reuse potential as a YMCA facility. In addition, WSA conducted a preliminary program analysis to evaluate the potential size and function of a police/fire facility on the project site.

Renovated Fuller School Building

This section describes a potential reuse alternative of the Fuller School building into a new YMCA with additional office and administrative space, as well accommodations to maintain preschool and the auditorium functions.

New YMCA

Based on discussions with representatives from the Northshore YMCA, a desired building program for a new YMCA within the existing Fuller School building would need to accommodate the following:

- Pools
  - 1 – 8 lane 25 yard pool
  - 1 – 40' x 60' teaching pool (warm water)
- Gym
  - 1 – Regulation High School Gym 53' x 83'

  - 2 – Cross court options (approximately 50' x 75'
  - 5 Locker Rooms – Men's, Women's, Boy's, Girl's, Family
- Lobby
- Administration Offices
- Fitness Center (6,000 SF)
- Program Rooms – 3 (4,000 SF total)
- Child Watch Area
- Mechanical Space
- Storage
- Preschool and Afterschool childcare space (approximately 10,000 SF)

Given the inflexible nature of the existing structural system, the design strategy focused on 'working with' the existing spaces/structure to the greatest degree possible. With this in mind, the requested program was easily accommodated by the existing structure with the exception of the pools. The pools however, can be accommodated if the northeast portion of the school is demolished and replaced by a new structure housing the two pools. This portion of the structure is currently used as the Gloucester Public School administrative offices and a preschool.

The above program translates into 69,200 SF when accommodated in the existing structure. The approximately 9,200 SF of additional desired space is the result of inefficiencies of adapting a desired program into an existing space (see Table 4). Additionally, the total SF includes all circulation space which is generally much greater in a school than in a YMCA.

The YMCA also requested the option to add an additional 10,000 SF for childcare space and approximately 2,500 SF for medical space.

Additional Preschool and School Administration Space

The Fuller Preschool and the Gloucester School Department Administration space currently occupy the Northeast portion of the existing Fuller School. Our proposed design for the YMCA demolishes this portion of the school to allow for the structure that houses the two new pools.

WSA was asked to include both the Fuller Preschool and the Gloucester School Department Administration space in this proposed design option. A preliminary building layout depicts the Fuller Preschool on the first floor at the northern side of

the existing structure. The preschool occupies approximately 7,000 SF and includes five classrooms, administrative space and bathrooms. The administrative offices for the Gloucester School Department are located on the second floor above the preschool and occupy approximately 10,000 SF.

New Office Space

Given the aspect ratio of the existing Fuller School structure, "leasing depth" would be too large to allow for natural light and views for the occupants at the center of the structure. However, if a multi-use approach were adopted with the YMCA occupying most of the "internal" spaces and offices occupying most of the perimeter area, incorporating a commercial component becomes much more feasible.

"Leasing depth", or lease span, is the distance of the usable area between the exterior wall and the fixed interior element, such as the core or the multi-tenant corridor. Although it depends on the functional requirements and is closely related with the structural frame and the material, there is considerable range in different markets. For example, in Germany, maximum leasing depth is determined by building codes and cannot be more than 24 feet, whereas in Japan it is typically approximately 54 feet. Smaller core-to-exterior window dimensions allow the users to maintain a relationship with the outside, thus benefiting from the natural light. Ideally, the depth of lease span should be between 30 feet and 40 feet for office functions, but it is generally recognized that the maximum income for office development is achieved when a high percentage of the workers are located within a 24-foot zone of the perimeter wall. As floors become deeper, the marketability of the space significantly decreases.

A preliminary layout locates all commercial (and municipal) offices at the perimeter walls at the existing classroom locations. The existing classrooms are all approximately 26 feet in depth and separated from each other by non-bearing CMU walls. This is an ideal depth for offices and the non-structural nature of the classroom demising walls allows for full flexibility with respect to width. The total area allocated to office use (including corridors and common area) is approximately 46,800 SF.

Reuse of Auditorium

The auditorium and stage within the Fuller School comprises approximately 8,100 SF and is currently being used by the Cape Ann Symphony. The Cape Ann Symphony

utilizes the facility for their quarterly concert series in addition to a number of special events.

Table 8
Renovated Fuller School Building Program

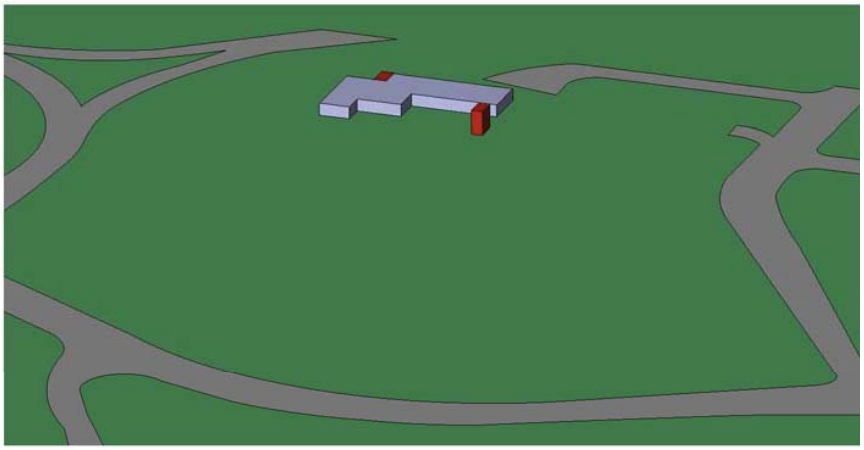
Use	Area (sf)
YMCA	
Pools	13,912
• *8 lane 25 yard pool*	
• *40 x 60 teaching pool*	
• *1 outdoor pool/deck, splash park*	
• *Auditorium*	
Gym	10,368
• *1 regulation high school gym*	
• *53'x83' / 2 – cross court options*	
5 Locker Rooms	8,596
• *Mens, Womens, Family, Boys and Girls*	
Administrative Offices	2,295
Fitness Center	7,900
Program Rooms	4,834
Child Watch Areas	1,188
Mechanical Area	Basement
Storage	1,330
Childcare Area – Preschool and afterschool	8,340
Circulation	10,445
Additional Childcare Area	11,226
Additional Medical Area	2,520
YMCA Total	82,954
Fuller Preschool – 5 classrooms	7,084
Office Space - General	36,783
Office Space - Gloucester School Administration	10,022
Auditorium	9,262
RENOVATED FULLER SCHOOL - TOTAL	146,105

Source: Winter Street Architects

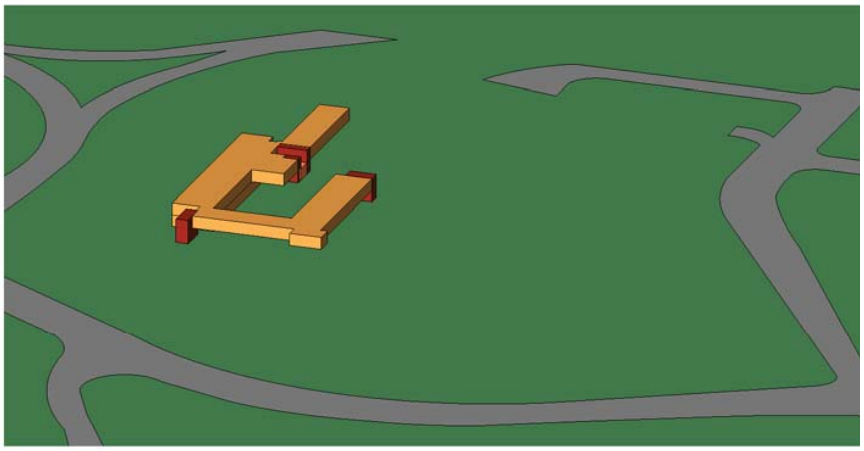
Vanasse Hangen Brustlin, Inc.

Figure X
Conceptual YMCA Layout

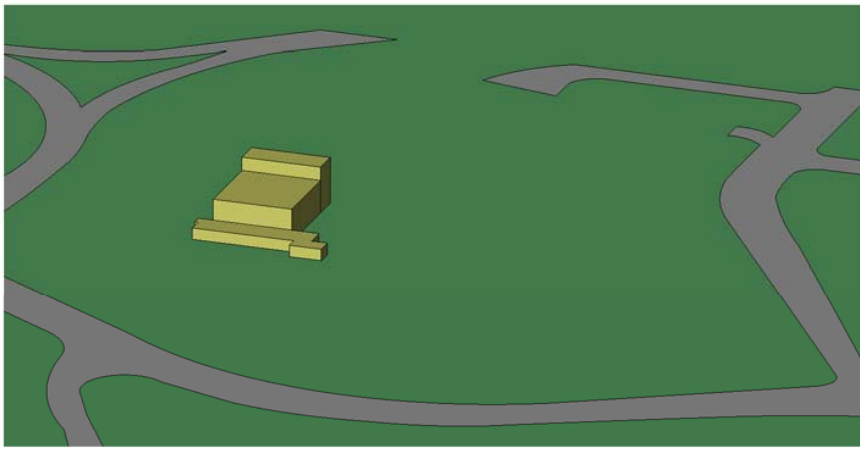
Fuller School Site Reuse Study
Gloucester, Massachusetts



School Administration Only



Office Space Only



Auditorium Only

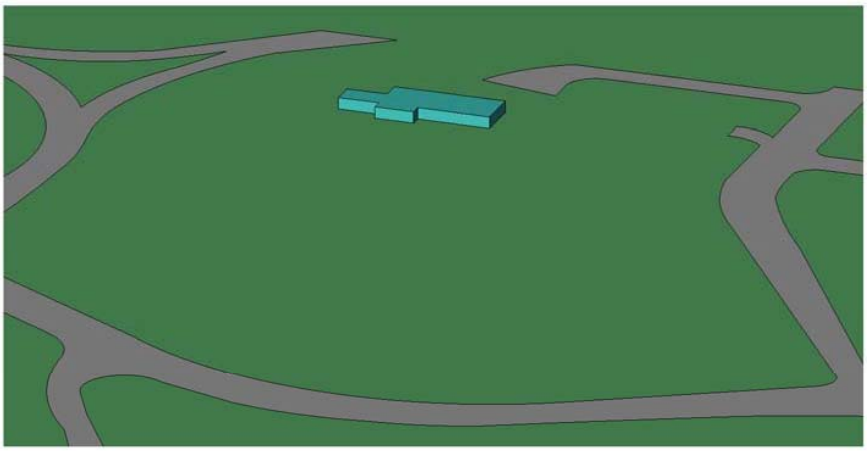
Source: Winter Street Architects

Vanasse Hangen Brustlin, Inc.

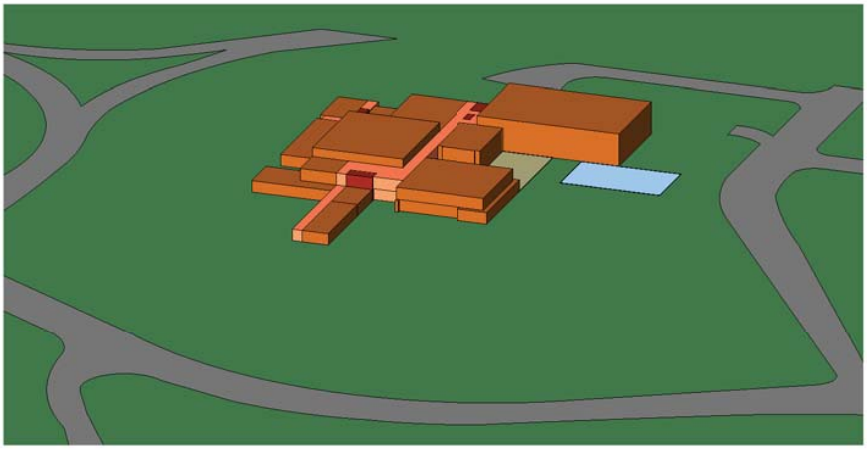
Figure X

Axonometric Views 1 of 2

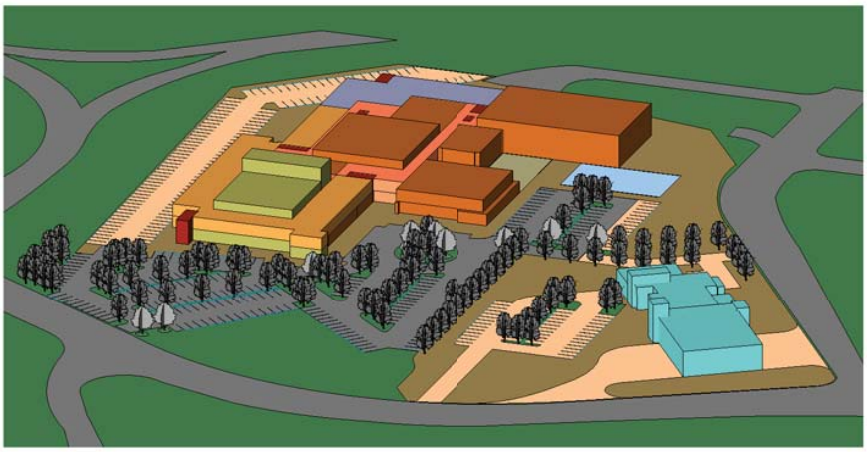
Fuller School Site Reuse Study
Gloucester, Massachusetts



Fuller Preschool Only



YMCA Only



Full Program

Source: Winter Street Architects

Vanasse Hangen Brustlin, Inc.

Figure X

Axonometric Views 2 of 2

Fuller School Site Reuse Study
Gloucester, Massachusetts

New Police/Fire Facility

The current Fire Station is located at 8 School Street in downtown Gloucester. The Facilities Capital Management Report dated 1/14/2010 states that '*the facility does not have the potential to be renovated to meet the modern standards and functionality that would warrant long-term investment*.' The city invested $300,000 in 2008 to remedy immediate hazards but the report states that the facility is fundamentally inadequate.

The current Police Station is located at 197 Main Street in downtown Gloucester. The Facilities Capital Management Report dated 1/14/2010 references a Police audit that states, "*replacing or renovating the Gloucester Police facility should be a top priority*." The facilities committee notes that "*this facility suffers from not only a lack of maintenance, but from critical flaws in the original design of the facility*". It further states that, "*these design flaws suggest that renovations of this facility would be insufficient to give the City of Gloucester an effective facility for police operations*."

Winter Street Architects (WSA) met with the Gloucester Fire Chief and the Gloucester Police Chief to discuss programming for a potential police/fire facility which would also contain an emergency operation center (EOC). This new police/fire facility would replace the existing downtown facilities.

Site planning for public safety facilities is largely determined by the egress and ingress requirements of the fire department. Modern fire station design generally eliminates the need to "back-in" large vehicles into the apparatus bay. This is achieved by providing a drive-thru bay that connects a large turning loop back to the main road. A more efficient solution is to locate the facility on a corner lot with egress on one street and ingress on the other. The southeast corner of the project site allows for such an arrangement.

Site planning requirements for the police include staff parking, cruiser storage, and access to an internal sallyport in order to transfer suspects in a controlled environment.

The proposed conceptual layout for a new police/fire facility assumes a combined building consisting of:

- **Fire Side**: 5 apparatus bay structure, 10 bunkrooms, dayroom, kitchen, private changing rooms, laundry, Chief's office, Deputy's Office, Training Storage, Plan Room, Admin Office, Fire Admin. Work Stations, Copier, Shift

Officer, Wash Down, Turnout Gear, Workshop, SCBA Room, Compressor Room, Medical Storage, etc.

- **Police Side**: Holding cells, interview rooms, booking, evidence storage, Chief's Office, Lieutenant's Office, Admin office, shift officer, copier, detective offices, arsenal, locker room, break room, bathrooms, storage, internal sallyport etc.
- **Shared Spaces**: An EOC (Emergency Operation Center) / training room with a capacity for 49 occupants, entrance vestibule, visitor's restrooms, fitness room, mechanical, etc. While conceptual in nature, the proposed 20,300 SF footprint is based on a previous WSA design. The total SF (including the 2nd floor) is approximately 30,000 SF.

Source: Winter Street Architects

Vanasse Hangen Brustlin, Inc.

Figure X
Conceptual Police/Fire Facility Layout

Fuller School Site Reuse Study
Gloucester, Massachusetts